

20010527.qrp v02_n202.qrl.20010527

Date: Sun, 27 May 2001 19:03:12 EDT

From: qrp-l@Lehigh.EDU

To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>

Subject: QRP-L digest 2202

QRP-L Digest 2202

Topics covered in this issue include:

- 1) [98969] Re: Painting Antennas
by Tim Soxman <tims@hhs.net>
- 2) [98970] RE: 6m NEWBIE NOTES
by Nick Kennedy <nkennedy@tcainternet.com>
- 3) [98971] Georgia Sierra Scores MA and PA on Six Meters at <= 500mW
by "Sam Billingsley" <sambillingsley@earthlink.net>
- 4) [98972] Re: 6m NEWBIE NOTES
by "Scott E. Olitsky" <solitsky@acsu.buffalo.edu>
- 5) [98973] Re: Painting Antennas
by "George, W5YR" <w5yr@att.net>
- 6) [98974] MH101: Complete VFO measurements (so far)
by John Wagner <john@neknetwork.com>
- 7) [98975] Re: The Wilderness SST - A Fresh Perspective (long)
by "Chuck Adams, K7Q0" <k7qo@earthlink.net>
- 8) [98976] Re: MH101: Complete VFO measurements (so far)
by "Chuck Adams, K7Q0" <k7qo@earthlink.net>
- 9) [98977] NORCAL 20 problem
by "Martin Sole" <martinsole@compuserve.com>
- 10) [98978] Trade Oak Hills WM-1 for Autek WM-1
by "Dennis Brickey" <n4dd@preferred.com>
- 11) [98979] Re: NORCAL 20 problem
by "Dave Fifield" <ad6a@earthlink.net>
- 12) [98980] Re: MH101: Complete VFO measurements (so far)
by "Robert P. Okas" <vintage@best.com>
- 13) [98981] Re: Painting Antennas -- Gray Auto Primer
by "Chuck Carpenter" <w5usj@globeco.net>
- 14) [98982] 17mtr DSB - Modulator trouble
by Bill Meara <n2cqr@clix.pt>
- 15) [98983] Re: Painting Antennas -- Gray Auto Primer
by Bruce Muscolino <w6toy@erols.com>
- 16) [98984] Wanted: Knobs for TenTec PM-2
by "Alan Fryer" <qrpdx@earthlink.net>
- 17) [98985] WTB: traps
by "Dave Benson" <nn1g@earthlink.net>
- 18) [98986] Re: The Wilderness SST - A Fresh Perspective (long)
by Richard Arland <rarland@earthlink.net>
- 19) [98987] 509 sidetone

- by Tom Popovic <ki3r@yahoo.com>
- 20) [98988] Re: 509 sidetone
by Bruce Muscolino <w6toy@erols.com>
- 21) [98989] Re: MH101: Complete VFO measurements (so far)
by "blinn" <blinn@smgazette.com>
- 22) [98990] 'Nother lame weasel idea from Lowe's Hardware
by nilsbull@juno.com
- 23) [98991] And now for the real contest...
by "N7SG K7FD" <k7fd@hotmail.com>
- 24) [98992] Class D amplifiers
by Mike <kd0ar@alltel.net>
- 25) [98993] Re: Class D amplifiers
by alan.kaul@att.net
- 26) [98994] Re: Class D amplifiers
by Bruce Muscolino <w6toy@erols.com>
- 27) [98995] Re: Class D amplifiers
by "James R. Duffey" <jamesd1@flash.net>

Date: Sat, 26 May 2001 19:28:00 -0400
From: Tim Soxman <tims@hhs.net>
To: ss94239@alltel.net
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [98969] Re: Painting Antennas
Message-ID: <3B103C00.8E23CE72@hhs.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Been watching this thread for a while and noted that no one has mentioned treating the aluminum prior to painting. In the military we used to use a mild acid wash to give the aluminum "tooth" so that the paint would bond to the metal. Lasts much longer.

73

Tim W3ZVT

Date: Sat, 26 May 2001 19:44:30 -0500
From: Nick Kennedy <nkennedy@tcainternet.com>
To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [98970] RE: 6m NEWBIE NOTES
Message-ID: <01C0E61C.48C95240.nkennedy@tcainternet.com>
MIME-Version: 1.0

Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

Seems a lot of us are getting on 6 for the first time. These new little bitty transceivers that cover HF and VHF are the greatest. I've had my IC706-2G for a couple of months. A few weeks ago I heard some CW (of all things) on 6. Didn't have a 6 meter antenna yet but I couldn't resist, so I cranked the power down to 20 watts for a little protection and worked a couple of guys in the New England area using my KT-34A tribander! (I'm in Arkansas.)

Six meters has always seemed like an exotic band to me--nice that there's still something new to try after 39 years of hamming. Since making those QSO's on my HF beam, I've put up a dipole and made a couple more. You can do a lot of monitoring while hearing nothing but background noise, though. I'm finding that I hear most in the late afternoon and early evening.

Regarding openings--I think a lot of times they are highly selective. There might be one from NJ to FLA but over here in the mid-south there's nothing. I've also renewed my interest in DXing a bit, and have found this link (<http://oh2aq.kolumbus.com/dxs/>), called DX Summit to be of use for both DX and 6. It lists "spots" of activity in close to real time--with stations and frequency given. You can select HF or VHF spots, or both. eHam has something similar. For 6 meters, I look to see if anyone in or near my grid is seeing any action.

On CW, I've mostly heard stations in the 50.196 to 50.199 range.

You need to know your grid square. Lots of stations on 6 don't even bother to give their state--just their grid. Look up your call on QRZ.COM to get your grid.

CU on 6?

72--Nick, WA5BDU

Date: Sat, 26 May 2001 20:56:43 -0400
From: "Sam Billingsley" <sambillingsley@earthlink.net>
To: <QRP-L@Lehigh.EDU>, "_NOGATECH" <nogatech@topica.com>, "_NOGAQRP_reflector" <nogaqrp@qth.net>
Subject: [98971] Georgia Sierra Scores MA and PA on Six Meters at <= 500mW
Message-ID: <00d301c0e647\$e5d0b260\$60522042@sbillingsley>

There was a neat six meter band opening today and still going on at 0036utc 5/27/01.

I decided to warm up the Sierra and turn my roof mounted 3 el. beam to NNE.

Heard several New Engand stations and VE3 on CW aroundt 50.090 +/-.

Decided to respond to their CQs.

Worked:

0016 KB3CB0 Ed Perkiomenville, PA fn20 not sure power or ant
0023 K1GDH Ed Webster, MA fn42 40 watts 4 el

Everyone gave everyone 599 reports (I think they're just happy to work someone).

So it is possible to work 6 meter QRPP with simple antenna and BAND OPENING.

Here's my 6 meter band module in place:

<http://www.qsl.net/ae4gx/Sierraon6meters.jpg>

and here's a BIG picture of the rig setup on operating table:

<http://www.qsl.net/ae4gx/Sierraatwork.jpg>

I haven't worked out the miles per watt but this has got to be a record for a Sierra. Note this Sierra in patterned after the ARRL Handbook Norcal Sierra with the W3IRZ mods for different IF (4.000 MHz) and varactor tuning on VFO. I also have mods to include some of the Wayne Burdick changes he outlined (in QRPP) when he created the Wilderness Sierra version.

Sam Billingsley AE4GX Atlanta, GA em73

Date: Sat, 26 May 2001 21:51:28 -0400
From: "Scott E. Olitsky" <solitsky@acsu.buffalo.edu>
To: <nkennedy@tcainternet.com>, "Low Power Amateur Radio Discussion" <qrp-
l@Lehigh.EDU>
Subject: [98972] Re: 6m NEWBIE NOTES
Message-ID: <004d01c0e64f\$970b9f20\$7ff4fea9@hppav>
MIME-Version: 1.0
Content-Type: text/plain;

charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Here is another nice propagation page for 6m:

<http://dxworld.com/50prop.html>

I generally leave 50.125 on all the time and squelch it...when the band opens you will hear lots of activity on the calling freq and then I check out the CW sub-band as well

Scott
AC3A

----- Original Message -----

From: "Nick Kennedy" <nkennedy@tcainternet.com>

To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>

Sent: Saturday, May 26, 2001 8:44 PM

Subject: RE: 6m NEWBIE NOTES

> Seems a lot of us are getting on 6 for the first time. These new little
> bitty transceivers that cover HF and VHF are the greatest. I've had my
> IC706-2G for a couple of months. A few weeks ago I heard some CW (of all
> things) on 6. Didn't have a 6 meter antenna yet but I couldn't resist, so
> I cranked the power down to 20 watts for a little protection and worked a
> couple of guys in the New England area using my KT-34A tribander! (I'm in
> Arkansas.)

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> still something new to try after 39 years of hamming. Since making those
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> link (<http://oh2aq.kolumbus.com/dxs/>), called DX Summit to be of use for
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> stations and frequency given. You can select HF or VHF spots, or both.
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> near my grid is seeing any action.

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> your grid.
>
> CU on 6?
>
> 72--Nick, WA5BDU
>
>
>

Date: Sat, 26 May 2001 21:19:59 -0500
From: "George, W5YR" <w5yr@att.net>
To: tims@hhs.net
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [98973] Re: Painting Antennas
Message-ID: <3B10644F.12C35F27@att.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

As I recall from many years ago in an aluminum awning operation of my
father, aluminum requires an etching primer coat if conventional paints are
to adhere and last.

72/73, George W5YR - the Yellow Rose of Texas QRP-L 1373 NETXQRP 6

Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 55th year and it just keeps getting better!
Icom IC-756PRO #02121 Kachina #91900556 IC-765 #02437

Tim Soxman wrote:

>
> Been watching this thread for a while and noted that no one has
> mentioned treating the aluminum prior to painting. In the military we
> used to use a mild acid wash to give the aluminum "tooth" so that the
> paint would bond to the metal. Lasts much longer.

Date: Sat, 26 May 2001 22:39:45 -0400
From: John Wagner <john@neknetwork.com>
To: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [98974] MH101: Complete VFO measurements (so far)
Message-ID: <3B1068F1.894773DD@neknetwork.com>

MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

MH101 Gang,

Here are the complete measurements of my VFO. All measurements are p-p voltages.

Base Q2: 6v
Emitter Q2: 3v
Lead into L1(C6): 10v
C3/C2/U1Pin6: 950mV
C10/C9/U5Pin2: 400mV

Hope I get this part right...

I measured the period as .41uS.
 $\text{Freq} = 1/\text{period} = 1/.00000041 = 2439024.39\text{Hz}$ or 2.439MHz

I don't have a freq counter, so that was done as a best guess with an oscscope.

Seem OK?

73,

John, KB1ENS

--

John Wagner - john@neknetwork.com
Web page: <http://www.neknetwork.com>

Date: Sun, 27 May 2001 03:22:20 +0100
From: "Chuck Adams, K7Q0" <k7qo@earthlink.net>
To: rarland@earthlink.net, "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [98975] Re: The Wilderness SST - A Fresh Perspective (long)
Message-ID: <5.0.2.1.0.20010527031417.00a0d150@mail.earthlink.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Thanks to Rich for the note on the contest.

I hadn't worked anyone with the IA QRP-10A and I hooked it up, tuned the

tuner for the vee beam and proceeded (with 1W) to kick some serious RF around. :-)

Lessons learned:

1. If band is up and down, i.e. you hear QSB on the signals, then wait until they are at their strongest to call and you can most times get them first call.
2. Sunday should be a good day for QRPers to get on the high bands as the DX stations have worked everyone already. Some of the guys were pushing Q # (contact number) over 1500 and some even over 2,000 on the count.
3. Today got lots of South America, Cook Island, and Hawaii.

So maybe tomorrow I'll get on early and stay late. Like all contests you are talking to the best antenna systems in the world and some high dollar rigs, so your little QRP-10 or whatever will be heard in most cases.

One word of warning though. These guys and girls are going at over 30WPM in most cases but maybe you can copy them a couple of times and get the info. All you need is their call and you'll get a 599 (standard contest report and we don't need a thread on the legal issues as no one cares during a contest) followed by a number. QSL via the buro for your DXCC awards....

During these contests you can hear almost every country in the world during some part of the day.

FYI es tn timer Rich,

Chuck Adams, K7QO CP-60
Prescott, AZ k7qo@earthlink.net <http://www.qsl.net/k7qo>

TMPS-2001 Jan 12th -> April 15th, 2001 States = 49 DXCC = 15

States Needed AK DXCC --- K XE VE KH6 V73 HI3 FM5 OH3 C6 ZL1 C08 ZS6 EA8 EA7
PJ ZL2

Moving to Arizona? --- Bring your own water.

Date: Sun, 27 May 2001 04:18:31 +0100
From: "Chuck Adams, K7QO" <k7qo@earthlink.net>
To: john@neknetwork.com, "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [98976] Re: MH101: Complete VFO measurements (so far)

Message-ID: <5.0.2.1.0.20010527040515.00a0b580@mail.earthlink.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

At 10:39 PM 5/26/01 -0400, John Wagner wrote:

>MH101 Gang,
>
>Here are the complete measurements of my VFO. All measurements are p-p
>voltages.
>
>Base Q2: 6v
>Emitter Q2: 3v
>Lead into L1(C6): 10v
>C3/C2/U1Pin6: 950mV
>C10/C9/U5Pin2: 400mV
>
>Hope I get this part right...
>
>I measured the period as .41uS.
>Freq = 1/period = 1/.00000041 = 2439024.39Hz or 2.439MHz
>
>--- snip snip ---
>
>73,
>
>John, KB1ENS
>--
>John Wagner - john@neknetwork.com
>Web page: <http://www.neknetwork.com>

Let me follow up on this posting and previous ones.

If the VFO oscillates and has a clean output, then consider it a success.

1. If you have a GC receiver, then try to find the VFO output, otherwise wait until later.

We are gonna find they come up in a wide range of frequencies.

2. Now if you made parts substitutions the only real critical parts are C8, C4, C5, C6, and C7 (when we get to it). They all have to be C0G or NPO type caps in order to prevent significant drift on warmup.

I have to spend two days on the layout and design as we are now coming to the first branch in the road. Some will go with the unmodified version of the SW30+. It is a good rig, so you can't go wrong here.

For the mods ----

- a. Replace the IF cans with toroid based circuits.
- b. Add IF amp and look at the AGC.
 - o Some may want to go with the Motorola MC1350 IF amplifier
 - o Some may want to use an MMIC
 - o Some may want to go with a 2N2222A amp
 - o And there are more available options
- c. And some may want to go with one more crystal in the filter.
- d. RIT, which I probably should have looked at earlier, but that is part of the game.

And with the parts lists shown so far I have not taken into account any additional parts and I don't know what route you want to take. I'll try my best to cover several of the bases above but there is room for you to go a different route. Hopefully you went with a slightly larger board to allow room for these mods, but don't start worrying about it too much now. You can add board space later.

More in a posting on Tuesday.

dit dit

Chuck Adams, K7QO CP-60
Prescott, AZ k7qo@earthlink.net <http://www.qsl.net/k7qo>

TMPS-2001 Jan 12th -> April 15th, 2001 States = 49 DXCC = 15

States Needed AK DXCC --- K XE VE KH6 V73 HI3 FM5 OH3 C6 ZL1 C08 ZS6 EA8 EA7
PJ ZL2

Moving to Arizona? --- Bring your own water.

Date: Sun, 27 May 2001 11:37:05 +0700
From: "Martin Sole" <martinsole@compuserve.com>
To: <qrp-1@lehigh.EDU>
Subject: [98977] NORCAL 20 problem
Message-ID: <000b01c0e666\$af964f10\$1d7c92cb@tosh>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

I have recently been asked to examine a NORCAL 20 on behalf of a friend who together with others built them from kits supplied by the G-QRP club. After constructing the kits they have been very impressed by the receiver performance but not the transmitter. It seems that every time the key line is opened the speaker or headphones emits a very nasty =91pock=92 sound.

I have set up the test NORCAL 20 with my 25A supply fed through a short cable and see very little change in supply volts between transmit and receive. The 8 volt line moves less than 10mV between Tx and Rx. The noise almost disappears if the Tx is shifted several KHz away from the Rx frequency. I have carried out the AGC mod suggested by various people and detailed on the NORCAL site but this has not improved the problem. Putting a scope on the output of the detector I see a positive voltage on transmit, when the keyline is opened this drops but has a short ringing pulse before it settles.

Can anyone suggest a remedy for this or direct me to someone who can help. All of these radios are being used for training new operators and giving some of the interested youngsters a chance to play with real radios. Watching teenagers copy 20wpm code is a strong motivator.

73=92s de Martin, HS0/G4UQF
Bangkok
Thailand

Date: Sun, 27 May 2001 00:35:27 -0400
From: "Dennis Brickey" <n4dd@preferred.com>
To: <qrp-l@lehigh.edu>
Subject: [98978] Trade Oak Hills WM-1 for Autek WM-1
Message-ID: <001d01c0e666\$751f1d80\$63f3e4ce@computer>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Looking to do a WM-1 trade. The Oak Hills meter is in real nice condition. Like to trade for Autek WM-1 meter in like condition. Please reply via email. Thanks!

Dennis/N4DD

Date: Sat, 26 May 2001 22:24:50 -0700
From: "Dave Fifield" <ad6a@earthlink.net>
To: <martinsole@compuserve.com>, "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [98979] Re: NORCAL 20 problem
Message-ID: <000d01c0e66d\$5d6815a0\$0600a8c0@earthlink.net>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Martin,

This is a common problem. The MPF102 FETs supplied with some of the original kits were not very good. You need to replace them with 2N5457s or something close. This will cure the ker-pock sound for sure. I'm not sure what a good Euro or Asian equivalent would be, but I'm sure someone else will be able to tell us.

Cheers,
Dave Fifield,
AD6A

----- Original Message -----
From: "Martin Sole" <martinsole@compuserve.com>
Subject: NORCAL 20 problem

I have recently been asked to examine a NORCAL 20 on behalf of a friend who together with others built them from kits supplied by the G-QRP club. After constructing the kits they have been very impressed by the receiver performance but not the transmitter. It seems that every time the key line is opened the speaker or headphones emits a very nasty 'pock' sound.
(snip)

Date: Sat, 26 May 2001 22:52:03 -0700 (PDT)
From: "Robert P. Okas" <vintage@best.com>
To: John Wagner <john@neknetwork.com>
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>

Subject: [98980] Re: MH101: Complete VFO measurements (so far)
Message-ID: <Pine.BSF.4.21.0105262224510.11470-100000@shell14.ba.best.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Hi John,

Thanks for the info. I have my own data to add. I haven't yet procured the MV1662, so my frequencies will be higher than expected. C7 is yet to be installed. I put 7.3V on the collector of Q2, from a regulated lab supply and collected the following VFO drift data:

Time	Freq.
(min)	(MHz)
0	2.514497
1	2.514466
2	2.514468
3	2.514470
4	2.514473
5	2.514480
6	2.514485
7	2.514490
8	2.514493
9	2.514493
10	2.514495
15	2.514515
30	2.514590
60	2.514692
120	2.514954

The vfo was covered by a pyrex custard cup to shield it from random air currents (colpitts under glass!). The specified npo caps were used. I'm not sure what others are seeing for drift; less than 500 Hz over 2 hours for a simple vfo doesn't strike me as very bad at all.

73,
Bob - W3CD

On Sat, 26 May 2001, John Wagner wrote:

> MH101 Gang,
>
> Here are the complete measurements of my VFO. All measurements are p-p
> voltages.
>

> Base Q2: 6v
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> Freq = 1/period = 1/.00000041 = 2439024.39Hz or 2.439MHz
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> I don't have a freq counter, so that was done as a best guess with an
> oscscope.
>
> Seem OK?
>
> 73,
>
> John, KB1ENS
> --
> John Wagner - john@neknetwork.com
> Web page: <http://www.neknetwork.com>
>

Date: Sun, 27 May 2001 05:23:16 -0500
From: "Chuck Carpenter" <w5usj@globeco.net>
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: [98981] Re: Painting Antennas -- Gray Auto Primer
Message-ID: <3.0.2.32.20010527052316.006b9fe0@mail.globeco.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Some 15 or so years ago, I used light gray auto primer to take the shine off 3 beams, HF tri-bander, 2 mtr and 70 cm. (A city neighbor problem!) I removed the oils from the tubing but didn't do more than that for preparation. The primer is still there and the antennas worked fine then and the V/UHF beams still do.

Chuck Carpenter, W5USJ, Point, Rains Co., TX - EM22cv, NETXQRP #1
ARCI #5422, QRP-L #1306, SOC #57, Six Club #201, SMIRK #6275
Zombie #749, RARA #3, NETXQRP Web Site <http://www.netxqrp.org>
[TPMS] Qs/130, States/40, DX/27, 3W to HF9V, March Key, Codeboy Keyer

Date: Sun, 27 May 2001 10:22:37 -0400
From: Bill Meara <n2cqr@clix.pt>
To: qrp-1@Lehigh.EDU
Cc: homebrew@qth.net
Subject: [98982] 17mtr DSB - Modulator trouble
Message-ID: <3.0.6.16.20010527102237.2e4f52ae@pop.clix.pt>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

I made my first QSO with the 17 meter DSB rig, but it was more of a test than a QSO: after much fruitless calling I was forced to resort to a sked. CU2BD pointed his beam at me from the other side of Ponta Delgada (3km)... and still had trouble hearing me. He said the audio sounded OK, but very weak.

The problem is low output in the DSB mode. I think I've localized the trouble to the Balanced Modulator. This is a simple transformer/two diode circuit. It appears on Page 139 of W1FB's QRP Notebook.

I am able to 'balance out' the RF. When I unbalance the modulator(using the balance pot), I get about 1 watt out of the final (this is about right). But when I once again balance out the carrier and try to modulate, I can barely make the SWR/Output meter wiggle. Even when whistling, I can barely get the meter to move. I am modulating the signal, but just not enough.

I don't think the problem is insufficient audio. My audio amplifier (a 741 op amp) is working fine. And I tried injecting a 1 khz tone (at about 1 volt rms) into the AF port of the balance modulator -- no joy. I put the same signal into the input of the Op amp. Again, no luck.

So it is as if half of the balanced modulator (the RF half) is working fine (I can null out the carrier) but the audio portion seems unable to "unbalance" the modulator properly. I think the audio should be able to produce a level of "unbalancing" similar to what happens when I turn the balance pot to either end, but so far it is not even close.

I'm using two Motorola IN5821977 Hot carrier diodes. The both show forward resistance of about 5 ohms. (This is what I had in the junk box -- do you guys think this is a suitable component?)

I'm stumped. Anyone have any ideas on what's wrong or how I should proceed?

Thanks,
73 de CU2JL (aka N2CQR)
Bill Meara

Sao Miguel Island,
The Azores, Portugal
<http://planeta.clix.pt/n2cqr>

Date: Sun, 27 May 2001 06:29:20 -0400
From: Bruce Muscolino <w6toy@erols.com>
To: w5usj@globeco.net
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [98983] Re: Painting Antennas -- Gray Auto Primer
Message-ID: <3B10D700.A64D088F@erols.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Chuck,

I believe most primers will include some etching materials to put a "tooth" on aluminum. Anyway, it did work, didn't it!

73

Date: Sun, 27 May 2001 09:36:38 -0400
From: "Alan Fryer" <qrpdx@earthlink.net>
To: <qrp-l@lehigh.edu>
Subject: [98984] Wanted: Knobs for TenTec PM-2
Message-ID: <002301c0e6b2\$0fadf600\$3ec8323f@hppav>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Anyone have a junker PM-2 or knobs (4 small and 1 large) that are not being used ? Please let me know. Have lots of stuff to trade.

Have a good Holiday.

Alan, N3BJ
Bent Mountain, VA

Date: Sun, 27 May 2001 11:23:57 -0700
From: "Dave Benson" <nn1g@earthlink.net>
To: <qrp-1@lehigh.edu>
Subject: [98985] WTB: traps
Message-ID: <000301c0e6da\$32e06680\$1d152026@pavilion>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

gang-

Anyone have a pair of Unadilla 30M traps (KW-30) gathering dust? The dealers can't seem to get them right now- I've checked a number of sources to no avail.

(I know- I know!) I should make my own. I should use ladder-line. I should floss more often. This is one of those cases where the build/buy decision comes down in favor of "buy".

QRP Content: I promise never to run more than 5 watts with these traps.

Thanks & 73- Dave, NN1G

Date: Sun, 27 May 2001 12:07:02 -0400
From: Richard Arland <rarland@earthlink.net>
To: "Chuck Adams, K7Q0" <k7qo@earthlink.net>
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [98986] Re: The Wilderness SST - A Fresh Perspective (long)
Message-ID: <3B112626.CA66E8B6@earthlink.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

My pleasure, Charles....

73 Rich K7SZ

"Chuck Adams, K7Q0" wrote:

> During these contests you can hear almost every country in the world
> during some part of the day.
>
> FYI es tn timer Rich,

Date: Sun, 27 May 2001 09:24:12 -0700 (PDT)
From: Tom Popovic <ki3r@yahoo.com>
To: qrp-1@Lehigh.EDU
Subject: [98987] 509 sidetone
Message-ID: <20010527162412.49245.qmail@web11202.mail.yahoo.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii

Hello All I have searched about and have not been able to find a "mod" for the rather hard sidetone on my 509 Argonaut. I am sure that there is one floating about out there somewhere. Thanks in advance! BTW I surely hope that all of the "CW is dead" crowd are listening with the antenna connected this weekend.

God Bless 73 Tom Popovic KI3R Port Vue Pa. nr
Pittsburgh

=====

The common good was the claim and justification of every tyranny ever established over men. Every major horror of history was committed in the name of altruistic motive... Actors change, but the course of the tragedy remains the same. Ayn Rand 1943

Do You Yahoo!?
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Date: Sun, 27 May 2001 14:50:41 -0400
From: Bruce Muscolino <w6toy@erols.com>
To: ki3r@yahoo.com
Cc: Low Power Amateur Radio Discussion <qrp-1@lehigh.edu>
Subject: [98988] Re: 509 sidetone
Message-ID: <3B114C81.531E3EC1@erols.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

> Tom,

You might be a bit more specific. What, exactly is the side tone

doing? Does it work at all?

73

> _____
> Do You Yahoo!?
> Yahoo! Auctions - buy the things you want at great prices
> <http://auctions.yahoo.com/>

Date: Sun, 27 May 2001 12:44:05 -0700
From: "blinn" <blinn@smgazette.com>
To: <vintage@best.com>, "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [98989] Re: MH101: Complete VFO measurements (so far)
Message-ID: <000601c0e6e5\$64d73aa0\$a0b8e5d8@blinn>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Robert, thanks for the post.

Now I feel better about my frequency readings. I have an old Heathkit IM-4100 frequency counter that I built years ago. It hasn't seen much use over the years and I'm a little skeptical about its calibration and how much it loads the circuit. But, I guess, everything is relative, one way or another, right?

The two suggested points of connection (for the counter) showed different frequencies by quite a bit and the rate of shift seemed a bit erratic. So I connected between C8 and D1 and everything settled down. With the attenuation set at ten on the counter, readings seemed to be quite stable, relatively speaking. Over a ten minute period I saw only a 10 cycle change in a closed room with an even temperature and this range held for quite a time after I quit recording at ten second intervals. Overnight showed a reading of about 150 cycles difference. (Heaven knows where it traveled in the dark of night though!) Mine is oscillating at 2.380350 or thereabouts when hooked up as described above.

I can see now why many VFOs are contained in their own little cubicle... even custard dishes!

Bill - WA7TQK

-----Original Message-----

From: Robert P. Okas <vintage@best.com>

To: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>

Date: Saturday, May 26, 2001 10:49 PM

Subject: Re: MH101: Complete VFO measurements (so far)

>Hi John,

>

> Thanks for the info. I have my own data to add. I haven't yet procured
>the MV1662, so my frequencies will be higher than expected. C7 is yet to
>be installed. I put 7.3V on the collector of Q2, from a regulated lab
>supply and collected the following VFO drift data:
SNIPPED.....

--

Date: Sun, 27 May 2001 14:49:12 +0000

From: nilsbull@juno.com

To: QRP-L@lehigh.edu

Subject: [98990] 'Nother lame weasel idea from Lowe's Hardware

Message-ID: <20010527.145715.-186539.0.nilsbull@juno.com>

MIME-Version: 1.0

Content-Type: text/plain

Content-Transfer-Encoding: 7bit

Gang,

Cindy's closin' in on the final parts of spending big time for the
kitchen rehab here at the GTR & as part of that dance, I follow her
around Lowe's a lot. In my meanders I came across another nifty radio
project item what some of you mutts might get into.

"Classic Toolbox" is a repro of them fancy wooden tool boxes like
machinists love (and what was also on sale/demo at Dayton this year).
Made in China, just in case, (says on the bottom "fraglie handle with
care"), 8x16x8 inches (HWD) with double metal latch doodads for the lid
to stick down with. Inside there's a kinda "removable tray" for other
stuff. Nicely made & nicely finished & just perfect for them radio
projects where you have old Atwater-Kent repro knobs &c. (Distributedf by
LG Sourcing, Inc, PO Box 1535 North Wilkesboro NC 28659)

UPC 7 40593 09902 8; PO 0000612; Item 000104127

Mine had a job tag on it what said Tool Store:781; Wooden tool box; LOC
024240080000

Cost me \$22 + tax.

I only got it 'cause we'd gone through this big deal of getting some cabinet work done in the kitchen & the luster of new hardwood always gets me itchin' to blow something up & put it in a pretty box just in case it comes back from the dead.

And yes, 6 meters was open, once again, yesterday, although I still ain't got an antenna to squeak of -- 'cept for trying out the 10m loop & discovering that it would indeed work, but for havin' way too much diameter for the job. Which will now drag me kickin' & screamin' into searching for that article that I thought I'd saved on loop antennas & how to make 'em effishkent &c.

As if I've got a way to put one up in the air in the second place.

73

Nils

. . . and no, I didn't start on the FOXX3 yet 'cause Cindy's been workin' me like a dog . . . Anybody want an old microwave? You could use it for QRO SHF experiments with birds & bats & stufflike Beavis & Butt-head . . . "He said 'fire.' Uh-huh-huh-huh . . ."

Nils R. Bull Young -- El Gringo Errante -- La Estancia de los Guajolotes Sonrientes

<http://w8ijn.www6.50megs.com> -- W8IJN --

<http://members.fortunecity.com/nilsbull>

"In MY day we FIGHT to have earphones! Every DAY was STRUGGLE!"

-- Comrade Nikolai Sergeievich McTovarishov, 19

Oct 1917

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Date: Sun, 27 May 2001 14:44:25 -0700

From: "N7SG K7FD" <k7fd@hotmail.com>

To: qrp-1@Lehigh.EDU

Subject: [98991] And now for the real contest...

Message-ID: <F498BYXifWqFXfyY0Q00006a3a@hotmail.com>

Mime-Version: 1.0

Content-Type: text/plain; format=flowed

The WPX test was a great warm up for tonight's main event: The QRP/ARCI Hootowl Sprint <http://personal.palouse.net/rfoltz/arci/hoot.htm> ... starts 8pm your local time.

Hope to cu,

John K7FD, at club station K7Low tonight

Get your FREE download of MSN Explorer at <http://explorer.msn.com>

Date: Sun, 27 May 2001 17:28:04 -0400

From: Mike <kd0ar@alltel.net>

To: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>

Subject: [98992] Class D amplifiers

Message-ID: <01052717565700.00391@shack>

Content-Type: text/plain

MIME-Version: 1.0

Content-Transfer-Encoding: 8bit

I'm wondering if anyone has experimented with class D RF amplifiers.

Reason for asking, I just returned from a Harris broadcasting RF seminar, and Harris' "DX" Series AM transmitters use class D RF power modules. My radio cluster owns a DX-10 (10 kilowatt) and it puts off VERY little heat. So little in fact, the transmitter does not need vented to the outside and will not heat the room in the winter.

Anyway, the instructor claims they do better than 95% efficiency.

Now wouldnt that make for a nice portable battery operated transmitter if it could be scaled down to our power levels?

Here's how he says it works:

They use power MOS fet's.

The amplifier is biased something similar to class C. It is a non-linear amp, I imagine it would be just fine for CW. The drive is applied at a relatively high level. The output saturates on the peaks of the sine wave, and looks like a square wave output. Therefore, the transistor basically acts as a switch, either turned on HARD or totally off depending on where you are on the sine wave input. The only time the transistor dissipates power is during the transition time from on to off and back again.

With this in mind, I designed a 5 watt amplifier using a Radio Shack IRF511 operating as a broadband amplifier with a 50 ohm load resistor at the gate. The exciter was my SW-30+ running about a watt and a half output. a 1:4 RF transformer is tied to the drain, with the source grounded directly. The frequency of operation was at 10.1 MHZ. Applied voltage was 12.6 volts, the drain current measured at 450 mA. Output power read very close to 5 watts best I could tell, on my Radio Shack power meter.

Calculating the efficiency, $12.6 \times .450 = 5.67$ watts input. assuming my meter was accurate and reading 5 watts output, the efficiency was then:

$$5 / 5.6 = .89 \times 100 = 89\%$$

I believe for solid state devices, this is exceptional efficiency.

To confirm this, I keyed into a dummy load for 1 minute, felt the case of the UN-HEATSINKED FET and it was warm to the touch but not scorching hot like a class C bipolar would be.

Now, this was before any harmonic filter was installed, so I assume the efficiency will drop somewhat. Also, most MOS diagrams I've seen use a 24- 28 volt supply, and claim the efficiency deteriorates at 12 volts. But, if the efficiency runs at or near 90%, I can live with this "reduced" efficiency in portable gear.

If the input was driven by a square wave device such as a high speed schmidt trigger or an inverter type oscillator, I can see how the efficiency of this amplifier could run into the high 90% range.

Since these preliminary results looked so promising, I plan to continue research on this topic and will post results periodically on the group.

Something to ponder for you portable QRP'ers like me.

Mike

Date: Sun, 27 May 2001 22:24:00 +0000
From: alan.kaul@att.net
To: kd0ar@alltel.net
Cc: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: [98993] Re: Class D amplifiers
Message-ID:
<20010527222400.UHUM8745.mtiwmhc23.worldnet.att.net@webmail.worldnet.att.net>

If I remember correctly, the class D RF Amp was written up a few years ago in QST by the professor at Caltech who used the Norcal 40 as a study model and guide.

Unfortunately, I am away from both home and my stack of old QST magazines, but perhaps someone else here will remember the article and be able to provide a reference.

72/73 de alan

--

Alan Kaul W6RCL e-mail: w6rcl@amsat.org
<http://worldnet.att.net/~alan.kaul/index.html>

Date: Sun, 27 May 2001 18:33:03 -0400
From: Bruce Muscolino <w6toy@erols.com>
To: alan.kaul@att.net
Cc: Low Power Amateur Radio Discussion <qrp-1@lehigh.edu>
Subject: [98994] Re: Class D amplifiers
Message-ID: <3B11809F.D0BEEF09@erols.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Alan,

The first references I can remember to Class D appeared in 73 Magazine. Of course I am sure it was also in professional magazines but RF Power Amplifiers were not my field back then. I know one of my professors was surprised by it!

73

Date: Sun, 27 May 2001 16:56:15 -0600
From: "James R. Duffey" <jamesd1@flash.net>
To: <qrp-1@lehigh.edu>
Subject: [98995] Re: Class D amplifiers
Message-ID: <B736E22F.9E62%jamesd1@flash.net>
Mime-version: 1.0
Content-type: text/plain; charset="US-ASCII"
Content-transfer-encoding: 7bit

Mike - Fellow QRP-ler Glen VE3DNL, has also done some excellent experiments with Class D QRP rigs. I heard him talk about it at Arkiecon 2000.

He has built a couple of small rigs with very good efficiency. This is an area which needs more attention in the QRP community, particularly among those of us who use batteries a lot. Class D permits small cool running rigs with low power dissipation. -Dr. Megacycle KK6MC/5

--

James R. Duffey KK6MC/5
30 Casa Loma Road
Cedar Crest, NM 87008

End of QRP-L Digest 2202
